

#### ABSTRACT OF THE DISCLOSURE

A fixed pattern noise subtraction method in a digital imaging system incorporating a digital image sensor includes: acquiring a reference image of the digital image sensor when the digital image sensor receives no illumination, storing a reference value of an operating parameter associated with the reference image where the reference image is indicative of the fixed pattern noise associated with the digital image sensor, storing a model describing the behavior of the fixed pattern noise as a function of the operating parameter. Then, the method continues with acquiring a first image, measuring a current value of the operating parameter associated with the first image, calculating a noise prediction image by extrapolation of the reference image in accordance with the model and based on the current value and the reference value of the operating parameter, and subtracting the noise prediction image from the first image to generate a final image.